

RAVEN EYE II (RE-II)

Unmanned Multi-Mission Stabilized Payload

NORTHROP GRUMMAN
Electronic Systems

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VENDOR DESCRIPTION

RE-II is a family of advanced, off-the-shelf EO payloads designed for day and night operation, including surveillance, targeting, and laser designation. It is based on the design of the IAI-TAMAM Multi Mission Optronics Payload (MOSP) and incorporates Northrop Grumman's expertise in sensors, image processing and lasers. Over 400 MOSP systems have been supplied for different types of fixed- and rotary-wing platforms. The U-MOSP EO/IR/LRF-TD triple-sensor configuration is in production and is currently flying on the Northrop Grumman Fire Scout USN VTUAV. The Northrop Grumman RE-II configuration will include a Sensor Payload Assembly (SPA) that contains a high-resolution, large format MWIR FLIR, a high-resolution 3-color CCD TV with zoom optics, a lightweight Diode-Pumped Laser Rangefinder and Target Designator (LRF/TD), and a real-time image processing and enhancement card. In addition, the SPA includes a dynamic in-flight boresight mechanism between the LRF-TD and the FLIR/TV sensors to ensure precision target designation for laser-guided weapons. RE-II's superb gimbal design provides <10 micro-radians stabilization and <15 meters TLE under the Fire Scout severe vibrations profile.



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Business Category: Large Business

EOIRLD

Hardware		Gimbal
RF Frequency: N/A	Operating Temp.: -30°C to +55°C	Height: 20" Weight: 32 kg
Power: <300 W (<500 W with LD on)	Storage Temp.: -40°C to +71°C	Stabilization: <10 µrad (<5 µrad with EIS)
Weight: SPA 71 lbs. (32 kg)	Interface: RS-422, RS-170, 1553B, or 14-bit digital	Pointing Accuracy: < 1 mrad
Dimensions: 380 mm dia. x 500 mm height	Bandwidth Required: N/A	Angular Speed: 0-60°/sec
Internal Volume: <1.5 ft ³	TCDL Compatibility: Yes	Azimuth Coverage: 360°
Cooling: Ambient air	MTBF: >800 hrs	Elevation Coverage: +30° to -95° from horizon
LOS Stabilization: <10 µrad (<5 µrad with EIS)	MTTR: .25 hrs	Slew Rate Azimuth: 0-60°/sec
Auto Video Tracker: Yes	Maintainability: 2-level BIT to LRM level	Slew Rate Elev. Coverage: 0-60°/sec
Operating Altitude: 0 ft to 35,000 ft AGL	Pd: 90% @ 30 km	TLE: < 15 meters
Operating Speed: 0 knots to 450 knots	Pr: 90% @ 11.5 km	ATC or ATR or ATI: Provision for

Electro-Optical (EO)	Infrared (IR)	Laser Designator
Type: Zoom CCD	Type: InSb 3-5 µm IRFPA, NETD <20mK	Pulse Characteristics: 17 ±5 nsec
Resolution: 800 TVL	Resolution: 256x256 or 512x512	Pulse Energy: 100 mJ
Range: 11.5 km Target ID	Range: 8 km Target ID	Range: 16 km LRF, 8 km LTD
Angular Coverage: Same as gimbal	Angular Coverage: Same as gimbal	Angular Coverage: Same as gimbal
Zoom Rate: 35:1	Cooling Method: Stirling cycle cooler	Cooling Method: Closed-loop cooling
Modes of Operation: N/A	Modes of Operation: N/A	Modes of Operation: PRF and PIM modes, NATO Band I & II. Up to 20 PPS Q-switch.
Target Size: Std. NATO (2.3x2.3 meters)	Target Size: Std. NATO (2.3x2.3 meters)	Beam Divergence: <.25 mrad (<0.2 actual)
Field of View: 13.5°-0.29°	WFOV: 13.5° x 13.5°	Wavelength: 1.064 ±0.002 µm Nd-Yag
Sensitivity: 1 lux	MFOV: 2.9° x 2.9°	TLE: <15 meters
Color or B/W: B/W or Color	NFOV: 0.7° x 0.7°	